

Claims

1. An isolated DNA encoding vitamin B₆ phosphate phosphatase selected from the group consisting of:
 - (a) a DNA sequence represented in SEQ ID NO:9;
 - 5 (b) a DNA sequence which encodes a polypeptide having vitamin B₆ phosphate phosphatase activity and hybridizes under standard conditions to the DNA sequence defined in (a) or a fragment of thereof;
 - (c) a DNA sequence which encodes a polypeptide having vitamin B₆ phosphate phosphatase activity, wherein said polypeptide is at least 70 % identical to the amino acid sequence 10 represented in SEQ ID NO:10;
 - (d) a DNA sequence which encodes a polypeptide having vitamin B₆ phosphate phosphatase activity and is at least 70 % identical to the DNA sequence represented in SEQ ID NO:9;
 - (e) a degenerate DNA sequence of any one of (a) to (c).
- 15 2. A vector or plasmid comprising the isolated DNA of claim 1.
3. A polypeptide encoded by the isolated DNA of claim 1.
4. A recombinant microorganism of the genus *Sinorhizobium* or *Escherichia*, capable of producing vitamin B₆ from vitamin B₆ phosphate, wherein said microorganism is transformed with the DNA of claim 1 or the vector or plasmid of claim 2.
- 20 5. The microorganism of claim 4, wherein said microorganism is *Sinorhizobium meliloti* IFO 14782 having pVKPtacpdxP (*S. meliloti* IFO 14782/pVKPtacpdxP).
6. The microorganism of claim 4, wherein said microorganism is *Escherichia coli* JM109 having pKKpdxP (*E. coli* JM109/pKKpdxP).
- 25 7. A process for preparing a cell-free extract having vitamin B₆ phosphate phosphatase activity, which comprises cultivating the microorganism according to claim 4 wherein the microorganism is cultivated under conditions in a medium containing an assimilable carbon source, a digestible nitrogen source, inorganic salts, and other nutrients necessary for the growth of the microorganism at a pH value of about 5.0 to about 9.0, at a temperature of about 5°C to about 45°C, and for 1 day to about 15 days under aerobic conditions, and disrupting cells of the microorganism.
- 30 8. The process for producing vitamin B₆ from vitamin B₆ phosphate which comprises contacting vitamin B₆ phosphate with the cell-free extract of microorganism according to

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claim 4 in a reaction mixture, and recovering the resulting vitamin B₆ from the reaction mixture.

9. The process according to claims 7 or 8, wherein said microorganism is *Sinorhizobium meliloti* IFO 14782 having pVKPtacpdxP (*S. meliloti* IFO 14782/pVKPtacpdxP).
- 5 10. The process according to claims 7 or 8, wherein said microorganism is *Escherichia coli* JM109 having pKKpdxP (*E. coli* JM109/pKKpdxP).
